

**New England Waste Services of ME, Inc.  
d/b/a Pine Tree Landfill  
Penobscot County  
Hampden, Maine  
A-850-77-2-A**

**Departmental  
Findings of Fact and Order  
New Source Review  
Amendment #1**

After review of the air emissions license amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

**I. REGISTRATION**

**A. Introduction**

FACILITY	New England Waste Services of ME, Inc. d/b/a Pine Tree Landfill (PTL)
PART 70 LICENSE NUMBER	A-850-70-A-I
LICENSE TYPE	Chapter 115 Minor Modification
NAICS CODES	562212
NATURE OF BUSINESS	Solid Waste Landfill
FACILITY LOCATION	Hampden, Maine
PART 70 LICENSE ISSUANCE DATE	June 9, 2003
NSR AMENDMENT ISSUANCE DATE	November 28, 2006

**B. Amendment Description**

PTL operates a landfill gas collection system. The collected gases are currently controlled by a permanent 40.5 MMBtu/hr flare (Flare #1) and a temporary 40.5 MMBtu/hr flare (Flare #2).

In this amendment PTL proposes to replace both Flare #1 and Flare #2 with a new permanent 90 MMBtu/hr flare (Flare #3) and address Best Available Control Technology for control of emissions from the facility.

PTL had also been previously licensed to install a generation unit which fired landfill gas. The time frame for commencement of construction for this equipment has lapsed. Approval to construct and emissions associated with this equipment has been removed from this license.

C. Application Classification

A source is considered a major source based on whether or not expected emissions exceed the “Significant Emission Levels” as defined in the Department’s regulations. The emissions for the new sources are determined by the maximum future license allowed emissions, as follows:

<u>Pollutant</u>	<u>Previous License (TPY)</u>	<u>Max. Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Sig. Level</u>
PM	5.7	6.7	+1.0	100
PM <sub>10</sub>	5.7	6.7	+1.0	100
SO <sub>2</sub>	4.2	25.0	+20.8	100
NO <sub>x</sub>	33.8	15.8	-18.0	100
CO	53.6	145.9	+92.3	100
VOC	49.9	49.9	0.0	50

Therefore, this amendment is determined to be a minor modification under MEDEP Chapter 115 and has been processed as such. This modification will make this facility a major source.

## II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Department’s regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Flare #3

Since PTL’s calculated NMOC emissions are less than 50 megagrams per year, this facility is not required to install a collection and control system that complies with New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart WWW, *Standards of Performance for Municipal Solid Waste Landfills*. However, PTL installed a collection and control system that is designed to meet

the criteria set forth in Subpart WWW. This system was determined to meet BACT in Air Emission License A-850-70-A-I.

This system consists of a gas collection system and flare. Flare #3 has a maximum heating value of 90 MMBtu/hr and is designed to achieve 98% overall destruction of total hydrocarbons. The flare also uses a small amount of propane as a pilot light.

The use of Flare #3 as part of PTL's collection and control system has been determined to meet BACT for control of VOCs from the landfill.

**C. SO<sub>2</sub> Emissions**

Recent testing of the landfill gas (LFG) at PTL's site has discovered that it contains sulfur compounds (primarily H<sub>2</sub>S) in levels much higher than in previous sampling. When the LFG is combusted in the flare, the sulfur compounds are converted to SO<sub>2</sub>. Left uncontrolled, and depending on operational variables such as the type of wastes disposed, emissions could potentially exceed 200 ton/year of SO<sub>2</sub>.

PTL performed a BACT analysis for control of SO<sub>2</sub> and compared Gas Technology Products' Mini-Cat system and a proprietary wet scrubbing system being developed by Casella Waste Systems, Inc. (CWS). PTL concluded due to the uncertainty around future emissions of SO<sub>2</sub>, the relative unproven nature of the technologies available, and the lack of data in USEPA's RACT/BACT/LAER Clearinghouse, that BACT does not require any control of sulfur compounds (TRS). However, PTL has proposed installation of their proprietary wet scrubbing system as a measure that would go above and beyond BACT.

The Department does not agree with PTL's determination that no control of TRS is required. This is based primarily on the basis that the uncontrolled emissions of SO<sub>2</sub> would present a significant likelihood that this facility would cause violations of Maine's Ambient Air Quality Standards. Since PTL has proposed the installation of their wet scrubber system, the Department determines that the installation and operation of this equipment as well as an annual emission limit of 25 ton/year shall be determined to be BACT for SO<sub>2</sub>.

PTL may install and operate Flare #3 upon issuance of this amendment provided it does not operate either of the existing flares (Flare #1 or Flare #2) at any time Flare #3 is operating. Because Flare #3 will control the same emissions stream as would otherwise be controlled by the two existing flares, the new flare will not increase actual emissions under this interim operating scenario.

The wet scrubbing system is a new technology that is still in the development phase. Therefore, PTL has requested additional time to install and optimize the performance of the wet scrubbing system on the new flare. PTL shall operate the wet scrubbing system on the new flare on or before July 1, 2007. PTL shall have until the end of 2007 to meet the SO<sub>2</sub> limits in this license.

D. Annual Emissions

PTL shall be restricted to the following annual emissions, based on a 12 month rolling total:

**Total Licensed Annual Emission for the Facility**  
**Tons/year**

(used to calculate the annual license fee)

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Flare	6.7	6.7	25.0	15.8	145.9	49.9
<b>Total TPY</b>	<b>6.7</b>	<b>6.7</b>	<b>25.0</b>	<b>15.8</b>	<b>145.9</b>	<b>49.9</b>

### III.AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a source shall be determined on a case-by case basis. Modeling and monitoring are not required if the total emissions of any pollutant released do not exceed the following:

<u><b>Pollutant</b></u>	<u><b>Tons/Year</b></u>
PM	25
PM <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	100
CO	250

Based on the above total facility emissions, PTL is below the emissions level required for modeling and monitoring.

## ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-850-77-2-A pursuant to the preconstruction licensing requirements of MEDEP Chapter 115 and subject to the standard and special conditions below.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

(1) **Flare #3**

- A. PTL shall operate and maintain a landfill gas collection and control system (including Flare #3). [MEDEP Chapter 115, BACT]
- B. Emissions from Flare #3 shall not exceed the following [MEDEP Chapter 115, BACT]:

<b>Emission Unit</b>	<b>PM (lb/hr)</b>	<b>PM<sub>10</sub> (lb/hr)</b>	<b>NO<sub>x</sub> (lb/hr)</b>	<b>CO (lb/hr)</b>	<b>VOC (lb/hr)</b>
Flare #3	1.53	1.53	3.60	33.3	11.39

- C. Beginning on January 1, 2008, SO<sub>2</sub> emissions from Flare #3 shall not exceed 5.71 lb/hr except for periods of unavoidable malfunction of the wet scrubber. Compliance with the SO<sub>2</sub> lb/hr emission limit shall be based on sampling of the gas prior to combustion in the flare and a determination of the total amount of sulfur compounds contained in the sample. It will be assumed that all sulfur compounds are converted to SO<sub>2</sub> and emissions calculated accordingly. [MEDEP Chapter 115, BACT]
- D. The initial testing for sulfur compounds as described in Condition (1)(C) above shall be done within six months of initial start up of the wet scrubber.

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Testing shall be performed annually thereafter with no more than 14 months between tests. [MEDEP Chapter 115, BACT]

**(2) Wet Scrubber**

- A. Beginning no later than July 1, 2007 PTL shall operate and maintain a wet scrubbing system for control of TRS from in the LFG stream except for periods of unavoidable equipment malfunction. [MEDEP Chapter 115, BACT]
- B. PTL shall keep a log of the wet scrubber maintenance and downtime and provide it to the Department upon request. [MEDEP Chapter 115, BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS                      DAY OF                      2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 9/1/06

Date of application acceptance: 9/5/06

Date filed with the Board of Environmental Protection: \_\_\_\_\_

This Order prepared by Lynn Ross, Bureau of Air Quality.